

**Listing of Claims:**

Claims 1-9 (Canceled).

10. (Previously Presented) The illumination switching apparatus according to claim 32, wherein each of the first shutter mechanism and the second shutter mechanism comprises one of a mechanical shutter which is mechanically opened and closed,  
5 and an electronic shutter which is electronically opened and closed.

11. (Previously Presented) The illumination switching apparatus according to claim 32, further comprising a shutter controller which opens the first shutter mechanism and closes the second shutter mechanism in a standard illumination observation mode, and which closes the first shutter mechanism and opens the  
5 second shutter mechanism in a total reflection illumination observation mode.

12. (Previously Presented) The illumination switching apparatus according to claim 32, wherein the respective laser beams output by the laser oscillators have different wavelengths.

Claims 13-30 (Canceled).

31. (Previously Presented) An illumination switching apparatus comprising:

an objective having a numerical aperture which enables total reflection illumination to be performed on a target;

5 at least two light sources including a first light source that comprises a laser oscillator and a second light source that comprises a laser oscillator;

at least two shutter mechanisms, which include a first shutter mechanism provided across an optical path of a first  
10 laser beam emitted by the first light source and a second shutter mechanism provided across an optical path of a second laser beam emitted by the second light source, and which cooperate to selectively permit the laser beam emitted by one of the light sources to be passed therethrough while interrupting the laser  
15 beam emitted from another of the light sources;

an illumination system which guides a received one of the laser beams output from the at least two light sources to the objective; and

an illumination switching section which selects one of a  
20 first optical path and a second optical path, wherein when the first optical path is selected, the first laser beam output from the first light source is guided through the illumination system to travel along an optical axis of the objective to illuminate

the target in a standard observation mode, and wherein when the  
25 second optical path is selected, the second laser beam output  
from the second light source is guided through the illumination  
system and the objective to illuminate the target in a total  
reflection observation mode.

32. (Previously Presented) An illumination switching  
apparatus comprising:

an objective having a numerical aperture which enables total  
reflection illumination to be performed on a target;

5 a first light source including a first laser oscillator  
which outputs a first laser beam;

at least one second light source including a second laser  
oscillator which outputs a second laser beam;

an illumination system which guides a received one of the  
10 first and second laser beams to the objective;

a first light transmission section which guides the first  
laser beam, that is output from the first light source, to a  
first optical path along which the first laser beam is guided  
through the illumination system and along an optical axis of the  
15 objective;

a second light transmission section which guides the second  
laser beam, that is output from the second light source, to a

second optical path, along which the second laser beam is guided through the illumination system to realize the total reflection illumination on the target;

a first illumination switching section which includes a first shutter mechanism provided at a laser output terminal of the first laser oscillator, and which is selectively operable to permit the first laser beam output from the first laser oscillator to be guided to the first light transmission section, and to interrupt the first laser beam; and

a second illumination switching section which includes a second shutter mechanism provided at a laser output terminal of the second laser oscillator, and which is selectively operable to permit the second laser beam output from the second light source to be guided to the second light transmission section.

33. (Previously Presented) An illumination switching apparatus comprising:

an objective having a numerical aperture which enables total reflection illumination to be performed on a target;

a first laser oscillator which outputs a first laser beam;  
a second laser oscillator which outputs a second laser beam;  
an illumination system which guides a received one of the first and second laser beams to the objective;

10 a first shutter mechanism which is selectively operable to  
pass therethrough and interrupt the first laser beam;

a second shutter mechanism which is selectively operable to  
pass therethrough and interrupt the second laser beam;

a first optical fiber which transmits the first laser beam  
that has passed through the first shutter mechanism;

15 a first laser emission section which emits the first laser  
beam transmitted through the first optical fiber;

a total reflection microprism provided across a first  
optical path formed in the illumination system for guiding light  
along an optical axis of the objective, the total reflection  
20 microprism reflecting the first laser beam, which has been  
emitted from the first laser emission section, such that the  
first laser beam travels through the first optical path;

a second optical fiber which transmits the second laser beam  
that has passed through the second shutter mechanism;

25 a second laser emission section provided across a second  
optical path formed in the illumination system for illuminating  
the target using total reflection of light, the second laser  
emission section guiding the second laser beam, transmitted  
through the second optical fiber, to the second optical path; and

30 a shutter controller which opens the first shutter mechanism  
and closes the second shutter mechanism in a standard

illumination observation mode for observing the target, and which  
closes the first shutter mechanism and opens the second shutter  
mechanism in a total reflection illumination observation mode for  
35 observing the target.

34. (Previously Presented) An illumination switching method  
comprising:

selectively causing a first shutter mechanism to permit  
to pass therethrough or interrupt a first laser beam output from  
5 a first laser oscillator;

selectively causing a second shutter mechanism to permit to  
pass therethrough or interrupt a second laser beam output from a  
second laser oscillator;

guiding the first laser beam, which has passed through the  
10 first shutter mechanism, along an optical axis of an objective  
via an illumination system, to illuminate a target by standard  
observation fluorescent light; and

guiding the second laser beam, which has passed through the  
second shutter mechanism, through the objective via the  
15 illumination system, to illuminate the target using total  
reflection of observation fluorescent light.

Claims 35 and 36 (Canceled).

37. (Previously Presented) The illumination switching apparatus according to claim 33, wherein the first shutter mechanism is provided at a laser output terminal of the first laser oscillator, and the second shutter mechanism is provided at a laser output terminal of the second laser oscillator.

38. (Currently Amended) The illumination switching ~~apparatus~~ method according to claim 34, wherein the first shutter mechanism is provided at a laser output terminal of the first laser oscillator, and the second shutter mechanism is provided at a laser output terminal of the second laser oscillator.